

IN THE CLAIMS:

Please amend claims 47 to 57, 60, 61, 64, 70 and 72 as follows:

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Claims 1 to 46 (Cancelled).

C<sup>3</sup> 47. (Currently Amended). Process for destabilizing a viral quasi-species-distribution without inducing resistance to therapeutic agents comprising by replication replicating of nucleic acids of viruses present in the quasispecies-distribution by means of a defective replication system,

wherein providing the defective replication system with ~~has~~ a rate of misincorporation for nucleotides higher than a rate of misincorporation of the viral ~~wild-type~~ system of a wild-type and,

wherein the viruses are replicated by the replication system having the higher rate of misincorporation at least as effectively as it is done by the replication system of the wild-type virus.

48. (Previously Added). A process according to claim 47,

wherein a replication of a consensus-sequence comprising a nucleic acid sequence of the wild-type virus, is affected negatively in relation to other replicatable nucleic acids.

C<sup>3</sup>  
49. (Currently Amended) A process according to claim 47, comprising

~~wherein~~ inducing the defective replication of the viral nucleic acid ~~is induced~~ by reaction of a chemical substance.

50. (Currently Amended). A process according to claim 49,

~~wherein~~ selecting the chemical substance ~~is selected~~ from the group consisting of an antimetabolite and an allosteric effector of the replication system.

51. (Currently Amended). A process according to claim 47,

~~wherein~~ selecting the defective replication ~~is selected~~ system from the group consisting of a variant of a

natural mutual spectrum of the quasi-species and a mutant produced by mutagenesis.

52. (Currently Amended) A process according to claim 47,

C<sup>3</sup> wherein via the infiltration of a viral replication system into the virus population with subsequent infection of ~~the~~ target cells of the virus infection or by direct infiltration of a viral replication system or components of a viral replication system into the target cells, the target cells are enabled to replicate an infectious wild-type virus above the replication error threshold of the viral replication system, and to replicate with higher replication error rate than those of ~~the~~ a respective stable quasi-species-distribution, having at least the same efficiency of replication.

53. (Currently Amended). A process according to claim 47,

wherein selecting the replicaton systems ~~RNA or DNA~~ are selected from the group consisting of RNA or DNA polymerases and co-factors of RNA or DNA polymerases.

54. (Currently Amended). A process according to claim 47, comprising

~~wherein the infiltration of infiltrating the~~  
defective replication system into the virus population ~~occurs~~  
by transformation of individuals of the respective virus  
population or of the target cell in a manner according to ~~the~~  
gene therapy.

55. (Currently Amended) A process according to claim 47, comprising

~~wherein the infiltration of infiltrating the~~  
defective replication system ~~occurs~~ by superinfection of the  
target cell with defective viruses of the same species which  
carry the defective replication system.

56. (Currently Amended). A process according to claim 47, comprising

~~wherein~~ obtaining the gene carrying the viral  
replication system with the higher replication error rate ~~was~~  
~~obtained~~ by clonal selection or was synthetically prepared,  
and was infiltrated into a virus individual or into a target  
cell by a genetechanical procedure.

57. (Currently Amended). A process according to claim 47, comprising

~~wherein providing~~ the gene coding for the viral replication system with the higher error rate ~~is provided~~ with further regulatory gene segments which take over further control functions in the transformed virus individual or in the transformed target cell.

58. (Previously Added). A process according to claim 57, wherein the further regulatory gene segment takes care for a higher replication rate of the virus population.

59. (Previously Added). A process according to claim 48,

wherein the other replicatable nucleic acid is more effectively replicated than the nucleic acid of the consensus-sequence.

60. (Currently Amended) A process according to claim 48, comprising

~~wherein~~ diminishing a characteristic superiority parameter ~~is diminished~~ by a combination of the replication system and one or more nucleases and/or ribozymes

and/or antisense-RNA, whereby one or more nucleases and/or ribozymes and/or antisense-RNA are directed to components of ~~the~~ a respective virus genome and/or ~~the~~ other replicatable nucleic acid is present in ~~the~~ not infected target cell only in a minor concentration in the form of replicator or replicator precursor, and will be replicated only after the infection by the polymerase of the infected virus.

C<sup>3</sup>

61. (Currently Amended). A process for the treatment or prophylaxis of viral diseases, ~~whereby~~ comprising either transforming ~~the~~ affected target cells ~~are transformed~~ with a vector system, or ~~the~~ transforming target cells ~~are transformed~~ by infiltration of a viral system which is leading to a higher error rate ~~of rate~~ of misincorporation, or the treating target cells ~~are treated~~ with one or more substances which cause an increased rate of misincorporation of the replication system.

62. (Previously Added). A process according to claim 47,

wherein host cells are the target cells of the viral infection and are selected from the group consisting of

monocellular organisms, bacteria, plant cells, animal host cells, blood cells, and erythropoietic stem cells.

63. (Previously Added). An agent for the performance of the process according to claim 47, comprising a nucleic acid or a nucleic acid coding for a nucleic acid obtained by reaction of nucleotides and a viral replication system as well as other factors which are necessary for the reproduction of viruses under formation of oligo- or polynucleotides, whereby it is exclusively selected towards maximum amplification of the oligo- or polynucleotides by the viral replication system.

64. (Currently Amended). An agent according to claim 63, comprising at least one gene segment coding for a viral replication system and/or a co-factor of a viral replication system,

wherein the system to be coded is leading to a viral replication system with a higher rate of misincorporation

than fixed by ~~the~~ a native replication system, whereby the efficiency of the replication is at least maintained.

65. (Previously Added). An agent according to claim 63, comprising together with the replication system, which is leading to higher rates of misincorporation, transformed viruses, phages or eucaryotic cells or procaryotic cells and/or respectively prepared phages or plasmids for the transformation of the target cell or transformed target cells themselves.

66. (Previously Added). An agent according to claim 63, wherein they are replication enzymes and cause a replication above the inherent error threshold under an at least equal replication efficiency as compared with the wild-type.

67. (Previously Added). A method of destabilizing viral quasi-species distributions without inducing resistance to



therapeutic agents comprising inducing defective replication of nucleic acids of the viruses present in the quasi-species distribution around a consensus sequence by replicating the nucleic acids by a defective replication system that has a rate of nucleotide misincorporation higher than the rate of nucleotide misincorporation of the viral wild-type replication system and a replication efficiency at least as great as the wild-type replication system.

68. (Previously Added). The method according to claim 67,

wherein the defective replication system results from a natural mutation of the quasi-species distribution or is produced by metagenesis.

69. (Withdrawn). A method for the treatment or prophylaxis of diseases caused by a virus comprising inducing a rate of misincorporation during viral replication higher

than the rate of misincorporation of the wild-type virus by

a) transforming target cells with a vector system having  
at least one viral replication system having a rate of  
nucleotide misincorporation higher than the wild type  
viral replication system,

C<sup>3</sup> b) transforming the target cells by introduction of a  
viral system with a higher rate of nucleotide  
misincorporation, or

c) treating target cells with one or more substances  
that cause an increased rate of nucleotide  
misincorporation of viral replication.

70. (Currently Amended). The method according to claim

67, comprising

~~wherein~~ further destabilizing the viral quasi-species  
distribution ~~is further destabilized~~ by one or more  
nucleases, ribozymes, antisense- RNA, or combinations  
thereof directed to components of the virus.

71. (Previously Added). The method according to claim

67,

wherein the destabilization of viral quasi-species distribution occurs in plant cells or animal cells.

C3  
Census  
72. (Currently Amended). A process according to claim

61, comprising

wherein transforming the affected target cells ~~are~~  
~~transformed~~ with a vector system comprising a viral vector  
system, having at least one viral replication system which  
is leading to a replication system with a higher rate of  
misincorporation.

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